



28238 sequence listing v2.txt  
SEQUENCE LISTING

<110> Mintz, Liat

<120> Compositions, Reagents and Kits for and Methods of Diagnosing,  
Monitoring and Treating Obesity and/or Diabetes

<130> 28238

<140> 10/659,783

<141> 2003-09-11

<160> 42

<170> PatentIn version 3.3

<210> 1

<211> 4517

<212> DNA

<213> Homo sapiens

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## 28238 sequence listing v2.txt

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28238 sequence listing v2.txt

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## 28238 sequence listing v2.txt

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28238 sequence listing v2.txt

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28238 sequence listing v2.txt

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28238 sequence listing v2.txt

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28238 sequence listing v2.txt

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cggaagatgg aggtcaagca gaaggggcag aggatgaact ggaagtccgg gtcggtacct 540  
ctgcagtttt atgcttctgt ggcagcgagg aggggtgggg 579

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<212> DNA  
<213> Homo sapiens

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caggccagct ccctgtcgga tggcttttat gaaaaaatat ctctcccca ttctggggct 180  
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28238 sequence listing v2.txt

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catgctcatt ctcaaccaca tcaccaacac ttctttgaat ctttttcatg atgatattca	540
ccatgtgcgc aaaagcatgg aagtcaactt cctcagttac gtggtcctga ctgtagctgc	600
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ttaattataa taaaggtcac ataaacttta taaattcata actggtagct ataacttgag	1380
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tttcttat	1448

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 <213> Homo sapiens

<220>  
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28238 sequence listing v2.txt

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agctgccttg cccatgctga agcagagcaa tggaagcatg tgcgctcttc tgctggaatg	600
ctatcatgtt gtgcatctga gcagtngttg atggctctctc tcatagaaga tatcaggcag	660
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<210> 14  
 <211> 1394  
 <212> DNA  
 <213> Homo sapiens

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caggccagct ccctgtcgga tggcttttat gaaaaaatat ctctcccca ttctggggct	180
cttcatggcc tactactact attctgcaaa cgaggaattc agaccagaga tgctccaagg	240
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ggcgaagatg ggagcccatg tgggtggtgac agcgagggtca aaagaaactc tacagaaggt	360
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catgctcatt ctcaaccaca tcaccaacac ttctttgaat ctttttcatg atgatattca	540
ccatgtgcgc aaaagcatgg aagtcaactt cctcagttac gtggtcctga ctgtagctgc	600
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## 28238 sequence listing v2.txt

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 <212> DNA  
 <213> Homo sapiens

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 caggccagct ccctgtcggg tggcttttat gaaaaaatat ctccctcccca ttctggggct 180  
 cttcatggcc tactactact attctgcaaa cgaggaattc agaccagaga tgctccaagg 240  
 aaagaaagtg attgtcacag gggccagcaa agggatcggg agagagatgg cttatcatct 300  
 ggcgaagatg ggagcccatg tgggtggtgac agcgagggtca aaagaaactc tacagaaggt 360  
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 acaatattaa ttataataaa ggtcacataa actttataaa ttcataactg gtagctataa 1320  
 cttgagctta ttcaggatgg tttcttttaa accataaact gtacaaatga aatttttcaa 1380  
 tatttgtttc ttat 1394

<210> 16  
 <211> 1394  
 <212> DNA  
 <213> Homo sapiens

<400> 16  
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28238 sequence listing v2.txt

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cttgagctta	ttcaggatgg	tttcttttaa	accataaact	gtacaaatga	aatttttcaa	1380
tatttgtttc	ttat					1394

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 <211> 1821  
 <212> DNA  
 <213> Homo sapiens

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28238 sequence listing v2.txt

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 <212> DNA  
 <213> Homo sapiens

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	ggtatccac	tgcttgagc	ttggagcagc	ctcagcacac	tacattgctg	gcaccatgga	420

28238 sequence listing v2.txt

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 <212> DNA  
 <213> Mus musculus

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## 28238 sequence listing v2.txt

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<210> 20  
 <211> 1181  
 <212> DNA  
 <213> Mus musculus

<400> 20						
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gaaaaattac	ctcctcccga	tcctgggtgct	cttcctggcc	tactactact	attctacaaa	180
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caaaggcaca	gctctacgca	aaagcgaggt	gtactatgac	aaatcgctt	tgactccaat	780
cctgcttggg	aacccaggaa	ggaagatcat	ggaatttttt	tcattacgat	attataataa	840
ggacatgttt	gtaagtaact	aggaactcct	gagccctgggt	gagtgggtctt	agaacagtcc	900
tgcttgatac	ttctgtaagc	cctaccaca	aaagtatctt	tccagagata	cacaaatttt	960
ggggtacacc	tcatcatgag	aaattcttgc	aacacttgca	cagtgaaaat	gtaattgtaa	1020
taaatgtcac	aaaccacttt	ggggcctgca	gttgtgaact	tgattgtaac	tatggatata	1080
aacacatagt	ggttgtatcg	gctttacctc	acactgaatg	aaacaatgat	aactaatgta	1140
acattaaata	taataaagggt	aatatcaact	ttgtaaatgc	a		1181

<210> 21  
 <211> 845  
 <212> DNA  
 <213> Mus musculus

28238 sequence listing v2.txt

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<400> 21
actgtttggcc tctggawtca gaggctgctg cctgcctggg aggttgtaga aagctctgca    60
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gaaaaattac ctctccccga tcctggtgct ctctctggcc tactactact attctacaaa    180
tgaagagttc agaccagaaa tgctccaggg aaagaaagtg attgtcactg gggccagcaa    240
agggattgga agagaaatgg catatcatct gtcaaaaatg ggagcccatg tggatttgac    300
tgccaggctcg gaggaaggtc tccagaaggt agtgtctcgc tgccttgaac tcggagcagc    360
ctctgctcac tacattgctg gcactatgga agacatgaca tttgcggagc aatttattgt    420
caaggcgggg aagctcatgg gcggactgga catgcttatt ctaaaccaca tcactcagac    480
ctcgtgtgtc ctcttccatg acgacatcca ctctgtgcga agagtcatgg aggtcaactt    540
cctcagctac gtggtcatga gcacagccgc cttgccccatg ctgaagcaga gcaatggcag    600
cattgccgctc atctctctct tggctggggg aagaacagtt ccacaacaga gaagtcgcag    660
tgttactcct gactcccgcg gcccgtgatt aatatcacca gccacagaat ggactggaac    720
cctgtatcga tctggtggga ttggatataa cgaacataga attactcctg agactaccag    780
aactgaatag ttcaaatcaa atcatgccag aatatcagac aaatccaaat ggcaaaacag    840
ttgca                                                                    845

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<210> 22
<211> 244
<212> PRT
<213> Homo sapiens

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<400> 22
Met Leu Leu Leu Gly Ala Val Leu Leu Leu Leu Ala Leu Pro Gly His
1      5      10
Asp Gln Glu Thr Thr Thr Gln Gly Pro Gly Val Leu Leu Pro Leu Pro
20     25     30
Lys Gly Ala Cys Thr Gly Trp Met Ala Gly Ile Pro Gly His Pro Gly
35     40     45
His Asn Gly Ala Pro Gly Arg Asp Gly Arg Asp Gly Thr Pro Gly Glu
50     55     60
Lys Gly Glu Lys Gly Asp Pro Gly Leu Ile Gly Pro Lys Gly Asp Ile
65     70     75     80
Gly Glu Thr Gly Val Pro Gly Ala Glu Gly Pro Arg Gly Phe Pro Gly
85     90     95
Ile Gln Gly Arg Lys Gly Glu Pro Gly Glu Gly Ala Tyr Val Tyr Arg
100    105    110

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28238 sequence listing v2.txt

Ser Ala Phe Ser Val Gly Leu Glu Thr Tyr Val Thr Ile Pro Asn Met  
 115 120 125

Pro Ile Arg Phe Thr Lys Ile Phe Tyr Asn Gln Gln Asn His Tyr Asp  
 130 135 140

Gly Ser Thr Gly Lys Phe His Cys Asn Ile Pro Gly Leu Tyr Tyr Phe  
 145 150 155 160

Ala Tyr His Ile Thr Val Tyr Met Lys Asp Val Lys Val Ser Leu Phe  
 165 170 175

Lys Lys Asp Lys Ala Met Leu Phe Thr Tyr Asp Gln Tyr Gln Glu Asn  
 180 185 190

Asn Val Asp Gln Ala Ser Gly Ser Val Leu Leu His Leu Glu Val Gly  
 195 200 205

Asp Gln Val Trp Leu Gln Val Tyr Gly Glu Gly Glu Arg Asn Gly Leu  
 210 215 220

Tyr Ala Asp Asn Asp Asn Asp Ser Thr Phe Thr Gly Phe Leu Leu Tyr  
 225 230 235 240

His Asp Thr Asn

<210> 23  
 <211> 160  
 <212> PRT  
 <213> Homo sapiens

<400> 23

Met Pro Gly Ala Glu Gly Pro Arg Gly Phe Pro Gly Ile Gln Gly Arg  
 1 5 10 15

Lys Gly Glu Pro Gly Glu Gly Ala Tyr Val Tyr Arg Ser Ala Phe Ser  
 20 25 30

Val Gly Leu Glu Thr Tyr Val Thr Ile Pro Asn Met Pro Ile Arg Phe  
 35 40 45

Thr Lys Ile Phe Tyr Asn Gln Gln Asn His Tyr Asp Gly Ser Thr Gly  
 50 55 60

Lys Phe His Cys Asn Ile Pro Gly Leu Tyr Tyr Phe Ala Tyr His Ile  
 65 70 75 80

Thr Val Tyr Met Lys Asp Val Lys Val Ser Leu Phe Lys Lys Asp Lys  
 85 90 95

28238 sequence listing v2.txt

Ala Met Leu Phe Thr Tyr Asp Gln Tyr Gln Glu Asn Asn Val Asp Gln  
100 105 110

Ala Ser Gly Ser Val Leu Leu His Leu Glu Val Gly Asp Gln Val Trp  
115 120 125

Leu Gln Val Tyr Gly Glu Gly Glu Arg Asn Gly Leu Tyr Ala Asp Asn  
130 135 140

Asp Asn Asp Ser Thr Phe Thr Gly Phe Leu Leu Tyr His Asp Thr Asn  
145 150 155 160

<210> 24  
<211> 153  
<212> PRT  
<213> Homo sapiens  
  
<400> 24

Met Leu Leu Leu Gly Ala Val Leu Leu Leu Leu Ala Leu Pro Gly His  
1 5 10 15

Asp Gln Glu Thr Thr Thr Gln Gly Pro Gly Val Leu Leu Pro Leu Pro  
20 25 30

Lys Gly Ala Cys Thr Gly Trp Met Ala Gly Ile Pro Gly His Pro Gly  
35 40 45

His Asn Gly Ala Pro Gly Arg Asp Gly Arg Asp Gly Thr Pro Gly Glu  
50 55 60

Lys Gly Glu Lys Gly Asp Pro Gly Leu Ile Gly Pro Lys Gly Asp Ile  
65 70 75 80

Gly Glu Thr Gly Val Pro Gly Ala Glu Gly Pro Arg Gly Phe Pro Gly  
85 90 95

Ile Gln Gly Arg Lys Gly Glu Pro Gly Glu Gly Ala Leu Leu Ser Pro  
100 105 110

Thr Cys Pro Phe Ala Leu Pro Arg Ser Ser Thr Ile Ser Lys Thr Thr  
115 120 125

Met Met Ala Pro Leu Val Asn Ser Thr Ala Thr Phe Leu Gly Cys Thr  
130 135 140

Thr Leu Pro Thr Thr Ser Gln Ser Ile  
145 150

<210> 25  
<211> 166  
<212> PRT  
<213> Homo sapiens

28238 sequence listing v2.txt

<400> 25

Met Leu Leu Leu Gly Ala Val Leu Leu Leu Leu Ala Leu Pro Gly His  
1 5 10 15

Asp Gln Glu Thr Thr Thr Gln Gly Pro Gly Val Leu Leu Pro Leu Pro  
20 25 30

Lys Gly Ala Cys Thr Gly Trp Met Ala Gly Ile Pro Gly His Pro Gly  
35 40 45

His Asn Gly Ala Pro Gly Arg Asp Gly Arg Asp Gly Thr Pro Gly Glu  
50 55 60

Lys Gly Glu Lys Gly Asp Pro Gly Leu Ile Gly Pro Lys Gly Asp Ile  
65 70 75 80

Gly Glu Thr Gly Val Pro Gly Ala Glu Gly Pro Arg Gly Phe Pro Gly  
85 90 95

Ile Gln Gly Arg Lys Gly Glu Pro Gly Glu Gly Ala Tyr Val Tyr Arg  
100 105 110

Ser Ala Phe Ser Val Gly Leu Glu Thr Tyr Val Thr Ile Pro Asn Met  
115 120 125

Pro Ile Arg Phe Thr Lys Ile Phe Tyr Asn Gln Gln Asn His Tyr Asp  
130 135 140

Gly Ser Thr Gly Lys Phe His Cys Asn Ile Pro Gly Leu Tyr Leu His  
145 150 155 160

Arg Leu Ser Ser Leu Pro  
165

<210> 26

<211> 247

<212> PRT

<213> Mus musculus

<400> 26

Met Leu Leu Leu Gln Ala Leu Leu Phe Leu Leu Ile Leu Pro Ser His  
1 5 10 15

Ala Glu Asp Asp Val Thr Thr Thr Glu Glu Leu Ala Pro Ala Leu Val  
20 25 30

Pro Pro Pro Lys Gly Thr Cys Ala Gly Trp Met Ala Gly Ile Pro Gly  
35 40 45

His Pro Gly His Asn Gly Thr Pro Gly Arg Asp Gly Arg Asp Gly Thr  
Page 19

28238 sequence listing v2.txt

50

55

60

Pro Gly Glu Lys Gly Glu Lys Gly Asp Ala Gly Leu Leu Gly Pro Lys  
65 70 75 80

Gly Glu Thr Gly Asp Val Gly Met Thr Gly Ala Glu Gly Pro Arg Gly  
85 90 95

Phe Pro Gly Thr Pro Gly Arg Lys Gly Glu Pro Gly Glu Ala Ala Tyr  
100 105 110

Met Tyr Arg Ser Ala Phe Ser Val Gly Leu Glu Thr Arg Val Thr Val  
115 120 125

Pro Asn Val Pro Ile Arg Phe Thr Lys Ile Phe Tyr Asn Gln Gln Asn  
130 135 140

His Tyr Asp Gly Ser Thr Gly Lys Phe Tyr Cys Asn Ile Pro Gly Leu  
145 150 155 160

Tyr Tyr Phe Ser Tyr His Ile Thr Val Tyr Met Lys Asp Val Lys Val  
165 170 175

Ser Leu Phe Lys Lys Asp Lys Ala Val Leu Phe Thr Tyr Asp Gln Tyr  
180 185 190

Gln Glu Lys Asn Val Asp Gln Ala Ser Gly Ser Val Leu Leu His Leu  
195 200 205

Glu Val Gly Asp Gln Val Trp Leu Gln Val Tyr Gly Asp Gly Asp His  
210 215 220

Asn Gly Leu Tyr Ala Asp Asn Val Asn Asp Ser Thr Phe Thr Gly Phe  
225 230 235 240

Leu Leu Tyr His Asp Thr Asn  
245

<210> 27  
<211> 160  
<212> PRT  
<213> Mus musculus

<400> 27

Met Thr Gly Ala Glu Gly Pro Arg Gly Phe Pro Gly Thr Pro Gly Arg  
1 5 10 15

Lys Gly Glu Pro Gly Glu Ala Ala Tyr Val Tyr Arg Ser Ala Phe Ser  
20 25 30

Val Gly Leu Glu Thr Arg Val Thr Val Pro Asn Val Pro Ile Arg Phe  
Page 20

35

Thr Lys Ile Phe Tyr Asn Gln Gln Asn His Tyr Asp Gly Ser Thr Gly  
50 55 60  
Lys Phe Tyr Cys Asn Ile Pro Gly Leu Tyr Tyr Phe Ser Tyr His Ile  
65 70 75 80  
Thr Val Tyr Met Lys Asp Val Lys Val Ser Leu Phe Lys Lys Asp Lys  
85 90 95  
Ala Val Leu Phe Thr Tyr Asp Gln Tyr Gln Glu Lys Asn Val Asp Gln  
100 105 110  
Ala Ser Gly Ser Val Leu Leu His Leu Glu Val Gly Asp Gln Val Trp  
115 120 125  
Leu Gln Val Tyr Gly Asp Gly Asp His Asn Gly Leu Tyr Ala Asp Asn  
130 135 140  
Val Asn Asp Ser Thr Phe Thr Gly Phe Leu Leu Tyr His Asp Thr Asn  
145 150 155 160

<210> 28  
<211> 156  
<212> PRT  
<213> Mus musculus

<400> 28

Met Leu Leu Leu Gln Ala Leu Leu Phe Leu Leu Ile Leu Pro Ser His  
1 5 10 15  
Ala Glu Asp Asp Val Thr Thr Thr Glu Glu Leu Ala Pro Ala Leu Val  
20 25 30  
Pro Pro Pro Lys Gly Thr Cys Ala Gly Trp Met Ala Gly Ile Pro Gly  
35 40 45  
His Pro Gly His Asn Gly Thr Pro Gly Arg Asp Gly Arg Asp Gly Thr  
50 55 60  
Pro Gly Glu Lys Gly Glu Lys Gly Asp Ala Gly Leu Leu Gly Pro Lys  
65 70 75 80  
Gly Glu Thr Gly Asp Val Gly Met Thr Gly Ala Glu Gly Pro Arg Gly  
85 90 95  
Phe Pro Gly Thr Pro Gly Arg Lys Gly Glu Pro Gly Glu Ala Ala Ser  
100 105 110  
Leu Phe Pro Met Tyr Pro Phe Ala Leu Leu Arg Ser Ser Thr Thr Asn  
Page 21

28238 sequence listing v2.txt

115

120

125

Arg Ile Ile Met Thr Ala Ala Leu Ala Ser Ser Thr Ala Thr Phe Arg  
130 135 140

Asp Ser Thr Thr Ser Leu Thr Thr Ser Arg Cys Thr  
145 150 155

<210> 29  
<211> 169  
<212> PRT  
<213> Mus musculus

<400> 29

Met Leu Leu Leu Gln Ala Leu Leu Phe Leu Leu Ile Leu Pro Ser His  
1 5 10 15

Ala Glu Asp Asp Val Thr Thr Thr Glu Glu Leu Ala Pro Ala Leu Val  
20 25 30

Pro Pro Pro Lys Gly Thr Cys Ala Gly Trp Met Ala Gly Ile Pro Gly  
35 40 45

His Pro Gly His Asn Gly Thr Pro Gly Arg Asp Gly Arg Asp Gly Thr  
50 55 60

Pro Gly Glu Lys Gly Glu Lys Gly Asp Ala Gly Leu Leu Gly Pro Lys  
65 70 75 80

Gly Glu Thr Gly Asp Val Gly Met Thr Gly Ala Glu Gly Pro Arg Gly  
85 90 95

Phe Pro Gly Thr Pro Gly Arg Lys Gly Glu Pro Gly Glu Ala Ala Tyr  
100 105 110

Val Tyr Arg Ser Ala Phe Ser Val Gly Leu Glu Thr Arg Val Thr Val  
115 120 125

Pro Asn Val Pro Ile Arg Phe Thr Lys Ile Phe Tyr Asn Gln Gln Asn  
130 135 140

His Tyr Asp Gly Ser Thr Gly Lys Phe Tyr Cys Asn Ile Pro Gly Leu  
145 150 155 160

Tyr Ile Tyr Trp Leu Ser Ser Leu Pro  
165

<210> 30  
<211> 76  
<212> PRT  
<213> Mus musculus

28238 sequence listing v2.txt

<400> 30

Met Leu Leu Leu Gln Ala Leu Leu Phe Leu Leu Ile Leu Pro Ser His  
1 5 10 15

Ala Glu Asp Asp Val Thr Thr Thr Glu Glu Leu Ala Pro Ala Leu Val  
20 25 30

Pro Pro Pro Lys Gly Thr Cys Ala Gly Trp Met Ala Gly Ile Pro Gly  
35 40 45

His Pro Gly His Ile Lys Ile Lys Phe Glu Gly His Pro Pro Gly Arg  
50 55 60

Leu Asn Cys Ala Lys Ile Trp His Phe Leu Gln Asp  
65 70 75

<210> 31  
<211> 117  
<212> PRT  
<213> Homo sapiens

<400> 31

Met Pro Ser Pro Gly Thr Val Cys Ser Leu Leu Leu Leu Gly Met Leu  
1 5 10 15

Trp Leu Asp Leu Ala Met Ala Gly Ser Ser Phe Leu Ser Pro Glu His  
20 25 30

Gln Arg Val Gln Gln Arg Lys Glu Ser Lys Lys Pro Pro Ala Lys Leu  
35 40 45

Gln Pro Arg Ala Leu Ala Gly Trp Leu Arg Pro Glu Asp Gly Gly Gln  
50 55 60

Ala Glu Gly Ala Glu Asp Glu Leu Glu Val Arg Phe Asn Ala Pro Phe  
65 70 75 80

Asp Val Gly Ile Lys Leu Ser Gly Val Gln Tyr Gln Gln His Ser Gln  
85 90 95

Ala Leu Gly Lys Phe Leu Gln Asp Ile Leu Trp Glu Glu Ala Lys Glu  
100 105 110

Ala Pro Ala Asp Lys  
115

<210> 32  
<211> 117  
<212> PRT  
<213> Homo sapiens

<400> 32

28238 sequence listing v2.txt

Met Pro Ser Pro Gly Thr Val Cys Ser Leu Leu Leu Leu Gly Met Leu  
 1 5 10 15  
 Trp Leu Asp Leu Ala Met Ala Gly Ser Ser Phe Leu Ser Pro Glu His  
 20 25 30  
 Gln Arg Val Gln Val Arg Pro Pro His Lys Ala Pro His Val Val Pro  
 35 40 45  
 Ala Leu Pro Leu Ser Asn Gln Leu Cys Asp Leu Glu Gln Gln Arg His  
 50 55 60  
 Leu Trp Ala Ser Val Phe Ser Gln Ser Thr Lys Asp Ser Gly Ser Asp  
 65 70 75 80  
 Leu Thr Val Ser Gly Arg Thr Trp Gly Leu Arg Val Leu Asn Arg Leu  
 85 90 95  
 Phe Pro Pro Ser Ser Arg Glu Arg Ser Arg Arg Ser His Gln Pro Ser  
 100 105 110  
 Cys Ser Pro Glu Leu  
 115

<210> 33  
 <211> 292  
 <212> PRT  
 <213> Homo sapiens  
 <400> 33

Met Ala Phe Met Lys Lys Tyr Leu Leu Pro Ile Leu Gly Leu Phe Met  
 1 5 10 15  
 Ala Tyr Tyr Tyr Tyr Ser Ala Asn Glu Glu Phe Arg Pro Glu Met Leu  
 20 25 30  
 Gln Gly Lys Lys Val Ile Val Thr Gly Ala Ser Lys Gly Ile Gly Arg  
 35 40 45  
 Glu Met Ala Tyr His Leu Ala Lys Met Gly Ala His Val Val Val Thr  
 50 55 60  
 Ala Arg Ser Lys Glu Thr Leu Gln Lys Val Val Ser His Cys Leu Glu  
 65 70 75 80  
 Leu Gly Ala Ala Ser Ala His Tyr Ile Ala Gly Thr Met Glu Asp Met  
 85 90 95  
 Thr Phe Ala Glu Gln Phe Val Ala Gln Ala Gly Lys Leu Met Gly Gly  
 100 105 110



28238 sequence listing v2.txt

Leu Asp Met Leu Ile Leu Asn His Ile Thr Asn Thr Ser Leu Asn Leu  
115 120 125

Phe His Asp Asp Ile His His Val Arg Lys Ser Met Glu Val Asn Phe  
130 135 140

Leu Ser Tyr Val Val Leu Thr Val Ala Ala Leu Pro Met Leu Lys Gln  
145 150 155 160

Ser Asn Gly Ser Ile Val Val Val Ser Ser Leu Ala Gly Lys Val Ala  
165 170 175

Tyr Pro Met Val Ala Ala Tyr Ser Ala Ser Lys Phe Ala Leu Asp Gly  
180 185 190

Phe Phe Ser Ser Ile Arg Lys Glu Tyr Ser Val Ser Arg Val Asn Val  
195 200 205

Ser Ile Thr Leu Cys Val Leu Gly Leu Ile Asp Thr Glu Thr Ala Met  
210 215 220

Lys Ala Val Ser Gly Ile Val His Met Gln Ala Ala Pro Lys Glu Glu  
225 230 235 240

Cys Ala Leu Glu Ile Ile Lys Gly Gly Ala Leu Arg Gln Glu Glu Val  
245 250 255

Tyr Tyr Asp Ser Ser Leu Trp Thr Thr Leu Leu Ile Arg Asn Pro Cys  
260 265 270

Arg Lys Ile Leu Glu Phe Leu Tyr Ser Thr Ser Tyr Asn Met Asp Arg  
275 280 285

Phe Ile Asn Lys  
290

<210> 34  
<211> 163  
<212> PRT  
<213> Homo sapiens

<220>  
<221> MISC\_FEATURE  
<222> (163)..(163)  
<223> Xaa can be any naturally occurring amino acid  
<400> 34

Met Ala Phe Met Lys Lys Tyr Leu Leu Pro Ile Leu Gly Leu Phe Met  
1 5 10 15

Ala Tyr Tyr Tyr Tyr Ser Ala Asn Glu Glu Phe Arg Pro Glu Met Leu  
Page 25

28238 sequence listing v2.txt

20

25

30

Gln Gly Lys Lys Val Ile Val Thr Gly Ala Ser Lys Gly Ile Gly Arg  
35 40 45

Glu Met Ala Tyr His Leu Ala Lys Met Gly Ala His Val Val Val Thr  
50 55 60

Ala Ser Ser Ala His Tyr Ile Ala Gly Thr Met Glu Asp Met Thr Phe  
65 70 75 80

Ala Glu Gln Phe Val Ala Gln Ala Gly Lys Leu Met Gly Gly Leu Asp  
85 90 95

Met Leu Ile Leu Asn His Ile Thr Asn Thr Ser Leu Asn Leu Phe His  
100 105 110

Asp Asp Ile His His Val Arg Lys Ser Met Glu Val Asn Phe Leu Ser  
115 120 125

Tyr Val Val Leu Thr Val Ala Ala Leu Pro Met Leu Lys Gln Ser Asn  
130 135 140

Gly Ser Met Cys Ala Leu Leu Leu Glu Cys Tyr His Val Val His Leu  
145 150 155 160

Ser Ser Xaa

<210> 35  
<211> 295  
<212> PRT  
<213> Homo sapiens

<400> 35

Met Ala Phe Met Lys Lys Tyr Leu Leu Pro Ile Leu Gly Leu Phe Met  
1 5 10 15

Ala Tyr Tyr Tyr Tyr Ser Ala Asn Glu Glu Phe Arg Pro Glu Met Leu  
20 25 30

Gln Gly Lys Lys Val Ile Val Thr Gly Ala Ser Lys Gly Ile Gly Arg  
35 40 45

Glu Met Ala Tyr His Leu Ala Lys Met Gly Ala His Val Val Val Thr  
50 55 60

Ala Arg Ser Lys Glu Thr Leu Gln Lys Val Val Ser His Cys Leu Glu  
65 70 75 80

Leu Gly Ala Ala Ser Ala His Tyr Ile Ala Gly Thr Met Glu Asp Met  
Page 26

28238 sequence listing v2.txt

85

90

95

Thr Phe Ala Glu Gln Phe Val Ala Gln Ala Gly Lys Leu Met Gly Gly  
100 105 110

Leu Asp Met Leu Ile Leu Asn His Ile Thr Asn Thr Ser Leu Asn Leu  
115 120 125

Phe His Asp Asp Ile His His Val Arg Lys Ser Met Glu Val Asn Phe  
130 135 140

Leu Ser Tyr Val Val Leu Thr Val Ala Ala Leu Pro Met Leu Lys Gln  
145 150 155 160

Ser Asn Gly Ser Ile Val Val Val Ser Ser Leu Ala Gly Lys Val Ala  
165 170 175

Tyr Pro Met Val Ala Ala Tyr Ser Ala Ser Lys Phe Ala Leu Asp Gly  
180 185 190

Phe Phe Ser Ser Ile Arg Lys Glu Tyr Ser Val Ser Arg Val Asn Val  
195 200 205

Ser Ile Thr Leu Cys Val Leu Gly Leu Ile Asp Thr Glu Thr Ala Met  
210 215 220

Lys Ala Val Ser Gly Ile Val His Met Gln Ala Ala Pro Lys Glu Glu  
225 230 235 240

Cys Ala Leu Glu Ile Ile Lys Gly Gly Ala Leu Arg Gln Glu Glu Val  
245 250 255

Tyr Tyr Asp Ser Ser Leu Trp Thr Thr Leu Leu Ile Arg Asn Pro Cys  
260 265 270

Arg Lys Ile Leu Glu Phe Leu Tyr Ser Thr Ser Tyr Asn Met Glu Gly  
275 280 285

Leu Phe Cys Leu Met Phe Ile  
290 295

<210> 36  
<211> 274  
<212> PRT  
<213> Homo sapiens

<400> 36

Met Ala Phe Met Lys Lys Tyr Leu Leu Pro Ile Leu Gly Leu Phe Met  
1 5 10 15

Ala Tyr Tyr Tyr Tyr Ser Ala Asn Glu Glu Phe Arg Pro Glu Met Leu  
Page 27

## 28238 sequence listing v2.txt

20

25

30

Gln Gly Lys Lys Val Ile Val Thr Gly Ala Ser Lys Gly Ile Gly Arg  
 35 40 45

Glu Met Ala Tyr His Leu Ala Lys Met Gly Ala His Val Val Val Thr  
 50 55 60

Ala Arg Ser Lys Glu Thr Leu Gln Lys Val Val Ser His Cys Leu Glu  
 65 70 75 80

Leu Gly Ala Ala Ser Ala His Tyr Ile Ala Gly Thr Met Glu Asp Met  
 85 90 95

Thr Phe Ala Glu Gln Phe Val Ala Gln Ala Gly Lys Leu Met Gly Gly  
 100 105 110

Leu Asp Met Leu Ile Leu Asn His Ile Thr Asn Thr Ser Leu Asn Leu  
 115 120 125

Phe His Asp Asp Ile His His Val Arg Pro Met Leu Lys Gln Ser Asn  
 130 135 140

Gly Ser Ile Val Val Val Ser Ser Leu Ala Gly Lys Val Ala Tyr Pro  
 145 150 155 160

Met Val Ala Ala Tyr Ser Ala Ser Lys Phe Ala Leu Asp Gly Phe Phe  
 165 170 175

Ser Ser Ile Arg Lys Glu Tyr Ser Val Ser Arg Val Asn Val Ser Ile  
 180 185 190

Thr Leu Cys Val Leu Gly Leu Ile Asp Thr Glu Thr Ala Met Lys Ala  
 195 200 205

Val Ser Gly Ile Val His Met Gln Ala Ala Pro Lys Glu Glu Cys Ala  
 210 215 220

Leu Glu Ile Ile Lys Gly Gly Ala Leu Arg Gln Glu Glu Val Tyr Tyr  
 225 230 235 240

Asp Ser Ser Leu Trp Thr Thr Leu Leu Ile Arg Asn Pro Cys Arg Lys  
 245 250 255

Ile Leu Glu Phe Leu Tyr Ser Thr Ser Tyr Asn Met Asp Arg Phe Ile  
 260 265 270

Asn Lys

28238 sequence listing v2.txt

<210> 37  
 <211> 274  
 <212> PRT  
 <213> Homo sapiens

<400> 37

Met Ala Phe Met Lys Lys Tyr Leu Leu Pro Ile Leu Gly Leu Phe Met  
 1 5 10 15

Ala Tyr Tyr Tyr Tyr Ser Ala Asn Glu Glu Phe Arg Pro Glu Met Leu  
 20 25 30

Gln Gly Lys Lys Val Ile Val Thr Gly Ala Ser Lys Gly Ile Gly Arg  
 35 40 45

Glu Met Ala Tyr His Leu Ala Lys Met Gly Ala His Val Val Val Thr  
 50 55 60

Ala Ser Ser Ala His Tyr Ile Ala Gly Thr Met Glu Asp Met Thr Phe  
 65 70 75 80

Ala Glu Gln Phe Val Ala Gln Ala Gly Lys Leu Met Gly Gly Leu Asp  
 85 90 95

Met Leu Ile Leu Asn His Ile Thr Asn Thr Ser Leu Asn Leu Phe His  
 100 105 110

Asp Asp Ile His His Val Arg Lys Ser Met Glu Val Asn Phe Leu Ser  
 115 120 125

Tyr Val Val Leu Thr Val Ala Ala Leu Pro Met Leu Lys Gln Ser Asn  
 130 135 140

Gly Ser Ile Val Val Val Ser Ser Leu Ala Gly Lys Val Ala Tyr Pro  
 145 150 155 160

Met Val Ala Ala Tyr Ser Ala Ser Lys Phe Ala Leu Asp Gly Phe Phe  
 165 170 175

Ser Ser Ile Arg Lys Glu Tyr Ser Val Ser Arg Val Asn Val Ser Ile  
 180 185 190

Thr Leu Cys Val Leu Gly Leu Ile Asp Thr Glu Thr Ala Met Lys Ala  
 195 200 205

Val Ser Gly Ile Val His Met Gln Ala Ala Pro Lys Glu Glu Cys Ala  
 210 215 220

Leu Glu Ile Ile Lys Gly Gly Ala Leu Arg Gln Glu Glu Val Tyr Tyr  
 225 230 235 240

28238 sequence listing v2.txt

Asp Ser Ser Leu Trp Thr Thr Leu Leu Ile Arg Asn Pro Cys Arg Lys  
245 250 255

Ile Leu Glu Phe Leu Tyr Ser Thr Ser Tyr Asn Met Asp Arg Phe Ile  
260 265 270

Asn Lys

<210> 38  
<211> 262  
<212> PRT  
<213> Homo sapiens  
<400> 38

Met Leu Gln Gly Lys Lys Val Ile Val Thr Gly Ala Ser Lys Gly Ile  
1 5 10 15

Gly Arg Glu Met Ala Tyr His Leu Ala Lys Met Gly Ala His Val Val  
20 25 30

Val Thr Ala Arg Ser Lys Glu Thr Leu Gln Lys Val Val Ser His Cys  
35 40 45

Leu Glu Leu Gly Ala Ala Ser Ala His Tyr Ile Ala Gly Thr Met Glu  
50 55 60

Asp Met Thr Phe Ala Glu Gln Phe Val Ala Gln Ala Gly Lys Leu Met  
65 70 75 80

Gly Gly Leu Asp Met Leu Ile Leu Asn His Ile Thr Asn Thr Ser Leu  
85 90 95

Asn Leu Phe His Asp Asp Ile His His Val Arg Lys Ser Met Glu Val  
100 105 110

Asn Phe Leu Ser Tyr Val Val Leu Thr Val Ala Ala Leu Pro Met Leu  
115 120 125

Lys Gln Ser Asn Gly Ser Ile Val Val Val Ser Ser Leu Ala Gly Lys  
130 135 140

Val Ala Tyr Pro Met Val Ala Ala Tyr Ser Ala Ser Lys Phe Ala Leu  
145 150 155 160

Asp Gly Phe Phe Ser Ser Ile Arg Lys Glu Tyr Ser Val Ser Arg Val  
165 170 175

Asn Val Ser Ile Thr Leu Cys Val Leu Gly Leu Ile Asp Thr Glu Thr  
180 185 190

28238 sequence listing v2.txt

Ala Met Lys Ala Val Ser Gly Ile Val His Met Gln Ala Ala Pro Lys  
195 200 205

Glu Glu Cys Ala Leu Glu Ile Ile Lys Gly Gly Ala Leu Arg Gln Glu  
210 215 220

Glu Val Tyr Tyr Asp Ser Ser Leu Trp Thr Thr Leu Leu Ile Arg Asn  
225 230 235 240

Pro Cys Arg Lys Ile Leu Glu Phe Leu Tyr Ser Thr Ser Tyr Asn Met  
245 250 255

Asp Arg Phe Ile Asn Lys  
260

<210> 39  
<211> 244  
<212> PRT  
<213> Homo sapiens

<400> 39

Met Ala Phe Met Lys Lys Tyr Leu Leu Pro Ile Leu Gly Leu Phe Met  
1 5 10 15

Ala Tyr Tyr Tyr Tyr Ser Ala Asn Glu Glu Phe Arg Pro Glu Met Leu  
20 25 30

Gln Gly Lys Lys Val Ile Val Thr Gly Ala Ser Lys Gly Ile Gly Arg  
35 40 45

Glu Met Ala Tyr His Leu Ala Lys Met Gly Ala His Val Val Val Thr  
50 55 60

Ala Arg Ser Lys Glu Thr Leu Gln Lys Val Val Ser His Cys Leu Glu  
65 70 75 80

Leu Gly Ala Ala Ser Ala His Tyr Ile Ala Gly Thr Met Glu Asp Met  
85 90 95

Thr Phe Ala Glu Gln Phe Val Ala Gln Ala Gly Lys Leu Met Gly Gly  
100 105 110

Leu Asp Met Leu Ile Leu Asn His Ile Thr Asn Thr Ser Leu Asn Leu  
115 120 125

Phe His Asp Asp Ile His His Val Arg Lys Ser Met Glu Val Asn Phe  
130 135 140

Leu Ser Tyr Val Val Leu Thr Val Ala Ala Leu Pro Met Leu Lys Gln  
145 150 155 160

28238 sequence listing v2.txt

Ser Asn Gly Ser Ile Val Val Val Ser Ser Leu Ala Glu Thr Ala Met  
165 170 175

Lys Ala Val Ser Gly Ile Val His Met Gln Ala Ala Pro Lys Glu Glu  
180 185 190

Cys Ala Leu Glu Ile Ile Lys Gly Gly Ala Leu Arg Gln Glu Glu Val  
195 200 205

Tyr Tyr Asp Ser Ser Leu Trp Thr Thr Leu Leu Ile Arg Asn Pro Cys  
210 215 220

Arg Lys Ile Leu Glu Phe Leu Tyr Ser Thr Ser Tyr Asn Met Asp Arg  
225 230 235 240

Phe Ile Asn Lys

<210> 40  
<211> 292  
<212> PRT  
<213> Mus musculus

<400> 40

Met Ala Val Met Lys Asn Tyr Leu Leu Pro Ile Leu Val Leu Phe Leu  
1 5 10 15

Ala Tyr Tyr Tyr Tyr Ser Thr Asn Glu Glu Phe Arg Pro Glu Met Leu  
20 25 30

Gln Gly Lys Lys Val Ile Val Thr Gly Ala Ser Lys Gly Ile Gly Arg  
35 40 45

Glu Met Ala Tyr His Leu Ser Lys Met Gly Ala His Val Val Leu Thr  
50 55 60

Ala Arg Ser Glu Glu Gly Leu Gln Lys Val Val Ser Arg Cys Leu Glu  
65 70 75 80

Leu Gly Ala Ala Ser Ala His Tyr Ile Ala Gly Thr Met Glu Asp Met  
85 90 95

Thr Phe Ala Glu Gln Phe Ile Val Lys Ala Gly Lys Leu Met Gly Gly  
100 105 110

Leu Asp Met Leu Ile Leu Asn His Ile Thr Gln Thr Ser Leu Ser Leu  
115 120 125

Phe His Asp Asp Ile His Ser Val Arg Arg Val Met Glu Val Asn Phe  
130 135 140



28238 sequence listing v2.txt

Leu Ser Tyr Val Val Met Ser Thr Ala Ala Leu Pro Met Leu Lys Gln  
145 150 155 160

Ser Asn Gly Ser Ile Ala Val Ile Ser Ser Leu Ala Gly Lys Met Thr  
165 170 175

Gln Pro Met Ile Ala Pro Tyr Ser Ala Ser Lys Phe Ala Leu Asp Gly  
180 185 190

Phe Phe Ser Thr Ile Arg Thr Glu Leu Tyr Ile Thr Lys Val Asn Val  
195 200 205

Ser Ile Thr Leu Cys Val Leu Gly Leu Ile Asp Thr Glu Thr Ala Met  
210 215 220

Lys Glu Ile Ser Gly Ile Ile Asn Ala Gln Ala Ser Pro Lys Glu Glu  
225 230 235 240

Cys Ala Leu Glu Ile Ile Lys Gly Thr Ala Leu Arg Lys Ser Glu Val  
245 250 255

Tyr Tyr Asp Lys Ser Pro Leu Thr Pro Ile Leu Leu Gly Asn Pro Gly  
260 265 270

Arg Lys Ile Met Glu Phe Phe Ser Leu Arg Tyr Tyr Asn Lys Asp Met  
275 280 285

Phe Val Ser Asn  
290

<210> 41  
<211> 250  
<212> PRT  
<213> Mus musculus

<400> 41

Met Ala Val Met Lys Asn Tyr Leu Leu Pro Ile Leu Val Leu Phe Leu  
1 5 10 15

Ala Tyr Tyr Tyr Tyr Ser Thr Asn Glu Glu Phe Arg Leu Gln Lys Val  
20 25 30

Val Ser Arg Cys Leu Glu Leu Gly Ala Ala Ser Ala His Tyr Ile Ala  
35 40 45

Gly Thr Met Glu Asp Met Thr Phe Ala Glu Gln Phe Ile Val Lys Ala  
50 55 60

Gly Lys Leu Met Gly Gly Leu Asp Met Leu Ile Leu Asn His Ile Thr  
65 70 75 80

28238 sequence listing v2.txt

Gln Thr Ser Leu Ser<sub>85</sub> Leu Phe His Asp<sub>90</sub> Asp Ile His Ser Val Arg Arg<sub>95</sub>

Val Met Glu Val<sub>100</sub> Asn Phe Leu Ser<sub>105</sub> Val Val Met Ser Thr Ala Ala<sub>110</sub>

Leu Pro Met<sub>115</sub> Leu Lys Gln Ser<sub>120</sub> Gly Ser Ile Ala Val<sub>125</sub> Ile Ser Ser

Leu Ala<sub>130</sub> Gly Lys Met Thr Gln<sub>135</sub> Pro Met Ile Ala Pro<sub>140</sub> Tyr Ser Ala Ser

Lys Phe Ala Leu Asp Gly<sub>150</sub> Phe Phe Ser Thr Ile<sub>155</sub> Arg Thr Glu Leu Tyr<sub>160</sub>

Ile Thr Lys Val Asn<sub>165</sub> Val Ser Ile Thr Leu<sub>170</sub> Cys Val Leu Gly Leu Ile<sub>175</sub>

Asp Thr Glu Thr<sub>180</sub> Ala Met Lys Glu Ile<sub>185</sub> Ser Gly Ile Ile Asn Ala Gln<sub>190</sub>

Ala Ser Pro<sub>195</sub> Lys Glu Glu Cys Ala<sub>200</sub> Leu Glu Ile Ile Lys<sub>205</sub> Gly Thr Ala

Leu Arg<sub>210</sub> Lys Ser Glu Val Tyr<sub>215</sub> Tyr Asp Lys Ser Pro<sub>220</sub> Leu Thr Pro Ile

Leu Leu Gly Asn Pro Gly<sub>230</sub> Arg Lys Ile Met Glu<sub>235</sub> Phe Phe Ser Leu Arg<sub>240</sub>

Tyr Tyr Asn Lys Asp<sub>245</sub> Met Phe Val Ser Asn<sub>250</sub>

<210> 42  
<211> 192  
<212> PRT  
<213> Mus musculus

<400> 42

Met Ala Val Met<sub>5</sub> Lys Asn Tyr Leu Leu Pro Ile Leu Val Leu Phe Leu<sub>15</sub>

Ala Tyr Tyr Tyr Tyr Ser Thr Asn Glu<sub>25</sub> Glu Phe Arg Pro Glu<sub>30</sub> Met Leu

Gln Gly Lys<sub>35</sub> Lys Val Ile Val Thr Gly Ala Ser Lys Gly<sub>45</sub> Ile Gly Arg

Glu Met Ala Tyr His Leu Ser<sub>55</sub> Lys Met Gly Ala His<sub>60</sub> Val Val Leu Thr

28238 sequence listing v2.txt

Ala Arg Ser Glu Glu Gly Leu Gln Lys Val Val Ser Arg Cys Leu Glu  
65 70 75 80

Leu Gly Ala Ala Ser Ala His Tyr Ile Ala Gly Thr Met Glu Asp Met  
85 90 95

Thr Phe Ala Glu Gln Phe Ile Val Lys Ala Gly Lys Leu Met Gly Gly  
100 105 110

Leu Asp Met Leu Ile Leu Asn His Ile Thr Gln Thr Ser Leu Ser Leu  
115 120 125

Phe His Asp Asp Ile His Ser Val Arg Arg Val Met Glu Val Asn Phe  
130 135 140

Leu Ser Tyr Val Val Met Ser Thr Ala Ala Leu Pro Met Leu Lys Gln  
145 150 155 160

Ser Asn Gly Ser Ile Ala Val Ile Ser Ser Leu Ala Gly Gly Arg Thr  
165 170 175

Val Pro Gln Gln Arg Ser Arg Ser Val Thr Pro Asp Ser Arg Gly Pro  
180 185 190